2005 Coastal Nonpoint Source Pollution Grant Program Funded Projects

Proponent: **Cohasset Center for Student Coastal Research**
Project Title: *Advancing the Nexus of NPS pollution control among municipal management, volunteer water quality stewardship, and public education: a model project developed by the Cohasset Center for Student Coastal Research*
Watershed: South Shore
Project Type: Water Quality Assessment
Award: $16,712.00

The proposed project will assess, identify, and characterize nonpoint source pollution targeting bacteria and nitrates/nitrites within a sub-watershed of the Gulf River. The project will include a student-centered water quality assessment, analysis and research of NPS pollution control in the Gulf River, and an on-going public education and outreach program (speaker series, homeowner education tools, press articles). The project seeks to advance the municipal mitigation strategies and best management practices identified through this collaborative project.

Proponent: **Salem Sound Coastwatch**
Project Title: *Salem Sound Marine Sanitation Needs Assessment*
Watershed: North Shore
Project Type: Sanitation Needs Assessment
Award: $19,795.00

Salem Sound Coaastwatch sought funding to evaluate the sanitation practices for sewage disposal from recreational boats and commercial vessels within Salem Sound. The needs assessment will identify current sanitation practices in the boating community of Salem and Beverly Harbors and the Danvers River system through anonymous questionnaires and interviews. Perceived and real obstacles to reducing boater-based pollution will also be identified. The outcome of the needs assessment will be presented in a final report, Guidance Document, and Marine Sanitation BMP Forum. The Guidance Document will provide concrete actions for changing behaviors and instituting improved practices and regulations to reduce illegal sewage dumping. The Forum will provide an opportunity for stakeholders to engage in discussions regarding local solutions and methods for implementing proposed actions.

Proponent: **City of Salem**
Project Title: *Urban Storm Water and Low Impact Development Model Ordinance and Best Development Practices Guidebook*
Watershed: North Shore
Project Type: Capacity-building
Award: $34,500.00

The goal of this project is to develop a tool that will give the City of Salem greater control over water quality (and quantity) by regulating drainage and stormwater runoff from construction

projects smaller than one acre and encouraging the principles of LID and smart growth. Several City departments and boards, including the Board of Health, the Conservation Commission, Department of Public Services, Planning Board, and Building Department, will collaborate to create an Urban Stormwater and LID Ordinance and a Best Development Practices Guidebook based on this Ordinance. Once the Ordinance is fully developed it will be presented to the City Council for adoption into the City of Salem Code of Ordinances. Currently, there is no model ordinance or bylaw in Massachusetts for NPS control based on LID principles in a dense urban environment. This project will serve as a model that can be easily transferred to other urban communities.

Proponent: **Massachusetts Bay Estuary Association, Inc.**
Project Title: *Storm Windows Stormwater Education Campaign Survey*
Watershed: Massachusetts Bays
Project Type: Public Education
Award: $10,000.00

The Storm Windows program is a three to five year, multi-faceted outreach campaign to educate the public about polluted stormwater runoff. *Storm Windows* is a mass media/advertising campaign that "markets" stormwater as a significant problem that can be addressed by individuals. *Storm Windows* also includes partnerships with evening weather forecasters (which focus groups in Maine identified as an effective venue), targeted messaging, and community outreach including an interactive website. CNPS grant funding will be used to conduct a regionally specific baseline survey of Massachusetts Bays residents regarding stormwater. This survey will include questions regarding public knowledge and attitudes toward polluted stormwater runoff and the public's willingness to pay for stormwater management (e.g., via stormwater utilities).

Proponent: **North & South Rivers Watershed Association, Inc.**
Project Title: *Greenscapes Program, Phase II: A Regional Outreach Campaign*
Watershed: South Shore
Project Type: Public Education
Award: $35,000.00

The North and South Rivers Watershed Association (NSRWA) partnered with multiple communities on the South Shore of Massachusetts to develop the *Greenscapes* program. The program teaches consumers how to have healthy landscapes without using excess fertilizers, pesticides, herbicides, and water. Phase I of the program included the development of educational fact sheets, citizen workshops, advertisements in local newspapers, brochures that were distributed to citizens with their water bills, etc. NSRWA has sought funding to complete Phase II of the *Greenscapes* program, which will expand and refine the program to create additional outreach materials and venues, and to distribute the message to a wider audience. This project will double the number of participating communities, as well as offer additional services to further the mission of the program such as: offering a citizen workshop series regarding stormwater management and lawn maintenance; a workshop series for landscape

professionals regarding integrated pest management, groundwater protection, etc.; and the creation of a *Greenscapes* marketing package to be distributed to the largest garden centers and nurseries in the region.

Proponent: **Groundwork Lawrence**
Project Title: *Union & Mechanic Homes and Garden LID Pilot Project*
Watershed: North Shore
Project Type: Pilot
Award: $30,000.00

The proposed project will occur in a new home and community garden development in downtown Lawrence. The project will focus on the design and construction of the site's new community garden. It will include the design of stormwater best management practices (BMPs) to be implemented on-site, and an integrated management plan that comprehensively addresses drainage and maintenance issues of the entire site. BMPs designed to minimize the adverse affects of development on riverine and coastal water quality will be implemented and evaluated by conducting water quality testing, and sampling the hydrology of the site post-construction. The project also entails public education about Low Impact Design techniques and low-impact landscape maintenance.

Proponent: **Buzzards Bay Action Committee**
Project Title: *Stormwater Mapping Co-operative Program with Buzzards Bay Municipalities*
Watershed: South Coastal
Project Type: Capacity-building
Award: $18,951.00

The Buzzards Bay Action Committee, in partnership with the Greater New Bedford Regional Vocational Technical High School, will develop detailed stormwater drainage network maps and GIS data sets for several areas in the Buzzards Bay watershed. Through this effort, BBAC will complete the effort begun by the Buzzards Bay Project (BBP), to map known stormwater discharges and catch basins throughout 7 Buzzards Bay communities, including previously unmapped areas of Bourne, Wareham, and Marion. This effort will also result in the mapping and documentation of the underground drainage pipe system in several areas where these systems were not documented, including Dartmouth, Westport, Acushnet, and Rochester. This new data will be evaluated to establish preliminary priorities for remediation using the methodologies described in the BBP 2003 *Atlas of Stormwater Discharges in the Buzzards Bay Watershed.* This information will be provided to Buzzards Bay municipalities through BBAC workshops and training.

Proponent: **Town of Oak Bluffs Shellfish Department**
Project Title: *Martha's Vineyard Nitrogen Loading Source Evaluation Using Isotope Ratios*
Watershed: Cape Cod
Project Type: Nitrogen Loading Study
Award: $5,561.00

The town of Oak Bluffs applied for a CNPS grant to analyze nitrogen isotope ratios in shellfish in Martha's Vineyard coastal ponds. Dissolved nitrogen from different sources, such as septic wastewater from residential development or runoff from fertilizer, will have different isotope ratios that ultimately are reflected in the plants and animals in an ecosystem. The distinct isotopic signature of groundwater nitrogen input to a coastal pond is transferred through primary producers to consumers such as shellfish, which pick up and magnify a stable isotope of nitrogen. With assistance from EPA, the town will sample quahog, soft-shell clams, and eelgrass at 3 to 5 sampling sites in each coastal pond that were chosen based on watershed land use pa tterns, and analyze the samples for nitrogen isotope ratios. The town will follow the EPA protocol established for sample preparation and nitrogen isotope analysis. The town anticipates that the information developed from this study will demonstrate the link between nitrogen loading in the watershed and its appearance in important coastal pond resources such as shellfish and eelgrass. They expect the data to support the contention that the ponds are being impacted by nitrogen from septic system wastewater in their watersheds.

Proponent: **Town of Chatham**
Project Title: *Enterococci Source Assessment and Mitigation Planning for Cockle Cove Creek Watershed*
Watershed: Cape Cod
Project Type: Bacterial Assessment
Award: $28,800.00

For the past several years, Cockle Cove Creek has been closed to beachgoers as a result of elevated levels of enterococci bacteria. Upstream of Cockle Cove Creek is a large marsh system. Fecal matter from wildlife in this area is thought to be a contributor to the elevated bacterial levels. Another possible contributor to the bacteria problem is numerous private residences on the edges of the marsh, which are served by individual septic systems, some of which are antiquated. The town sought funding to complete an assessment project to investigate the source of the bacteria and aid them in identifying possible management strategies to mitigate the bacteria problem. The assessment will include a detailed sanitary survey and sampling program. The town will review watershed information for the project area, identify and evaluate septic system locations and impervious surfaces, conduct surface water and groundwater sampling for enterococci presence, and recommend management approaches based on assessment findings.